

# COLLOQUIUM

## When Stars Attack! In Search of Near-Earth Supernova Explosions

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The most massive stars are the celebrities of the cosmos: they are rare, but live extravagantly and die in spectacular and violent supernova explosions. These awesome events take a sinister shade when they occur close to home, because an explosion very nearby would pose a grave threat to Earthlings. We will discuss these cosmic insults to life, and ways to determine whether a supernova occurred nearby over the course of the Earth's existence. We will present evidence that a star exploded near the Earth about 3 million years ago. Radioactive iron atoms have been found in ancient samples of deep-ocean material, and are likely to be debris from this explosion. These data the first time allow sea sediments to be used as a telescope, probing the nuclear fires that power exploding stars. Furthermore, an explosion so close to Earth was probably a "near-miss," which emitted intense and possibly harmful radiation.